



The California Bay-Delta Memorandum of Understanding (MOU) was signed on September 29, 2009 by six Federal agencies to facilitate and coordinate federal responses to the California water supply crisis. The agencies included the Department of the Interior (Bureau of Reclamation), Department of Commerce, Department of Agriculture (Natural Resources Conservation Service), Department of the Army (Army Corps of Engineers), Environmental Protection Agency (EPA), and the Council on Environmental Quality. The MOU is a result of the Administration's commitment to address California water supply and environmental issues in a coordinated fashion. The MOU facilitates a partnership with the State of California and other local authorities in addressing these issues. The goal of the MOU is to develop long and short term actions to provide a sustainable water supply and progress ecosystem restoration.

The Interim Federal Action Plan

The MOU committed the Federal agencies, in partnership with the State, to develop an Interim Federal Action Plan (IFAP) on an expedited basis. The IFAP was released in December of 2009 and describes a variety of federal actions to address the current water and ecosystem crisis. The IFAP recognizes that in order to achieve meaningful results, Federal and State Agencies need to effectively integrate and prioritize programs and resources. These actions outlined in the IFAP are coordinated efforts between Federal, State, and local entities. The IFAP outlines specific actions for water conservation and recycling.

IFAP Elements: Water Conservation and Recycling

One priority outlined in the IFAP states, "agencies will work together to encourage the smarter supply and use of Bay-Delta water." This priority calls for the intensification and alignment of Federal water conservation efforts with the State and affected communities. Specifically, it states that, "Federal agencies will align their water conservation programs and focus efforts to help reduce demand in targeted regions." The Bureau of Reclamation (Reclamation), Natural Resources Conservation Service (NRCS), EPA, U.S. Army Corps of Engineers (USACE), State Water Resources Control Board (SWRCB), and the California Department of Water Resources (DWR) offer a multitude of financial and technical assistance programs for water management and water conservation improvements. The IFAP asserts, "As part of the Federal agencies' reinvigorated focus on the Bay-Delta, they will work to expeditiously align their project planning, water conservation, and project operations activities to leverage limited resources and to maximize benefits of water conservation in areas served by the CVP and SWP." To help maximize the benefits and initiate the cooperative efforts of the Federal and State agencies, the IFAP directed several activities; however, this summary focuses on the following:

- Host a roundtable with State and local agencies (including SWRCB, DWR and the Department of Public Health) to explore tangible opportunities to further align implementation and Federal-State funding priorities for water recycling and conservation efforts
- Work with the State and local authorities to initiate joint planning studies and demonstration projects in 5 targeted regions served by the CVP and SWP
- Strategically identify areas most amenable for accelerated planning assistance

Implementing the IFAP Water Conservation and Recycling Element

On April 8, 2010, Federal and State agencies hosted a Roundtable that invited stakeholders to participate in an open discussion of ideas for agency collaborations, water conservation, and

recycling. The Roundtable demonstrated agency commitment to the water conservation and recycling element of the IFAP and provided a venue for stakeholders to express their thoughts through facilitated breakout sessions. The breakout sessions included stakeholder discussions on agricultural water conservation, urban water conservation, and recycling.

Simultaneous to the planning of the Roundtable, an interagency technical team formed to establish agency collaborations, demonstration projects, and areas in need of planning assistance. Working from the results of the Roundtable breakout sessions and other agency considerations, the technical team established key criteria for interagency collaborations and demonstration projects. Key criteria for deciding demonstrations and collaborations included:

1. Provides multiple benefits
2. Results are replicable and transferable to other locations within the State
3. Streamlines or eliminates redundant processes
4. Produces measureable outcomes
5. Makes significant contributions to water conservation and recycling

Likewise, the technical team's discussions took into account three dimensions and time frames for collaborative opportunities. These included:

1. Short term processes where existing authorities and funds can exemplify collaborations and create benefits over the next 3-5 years and contribute (technical expertise or dollars) to the IFAP effort.
2. Demonstration water conservation and recycling projects with on-the-ground applications
3. Long term processes that utilize the successes and lessons from the short term processes that may require institutional adjustments or policy change over a period of years

Proposed IFAP Water Conservation and Recycling Projects:

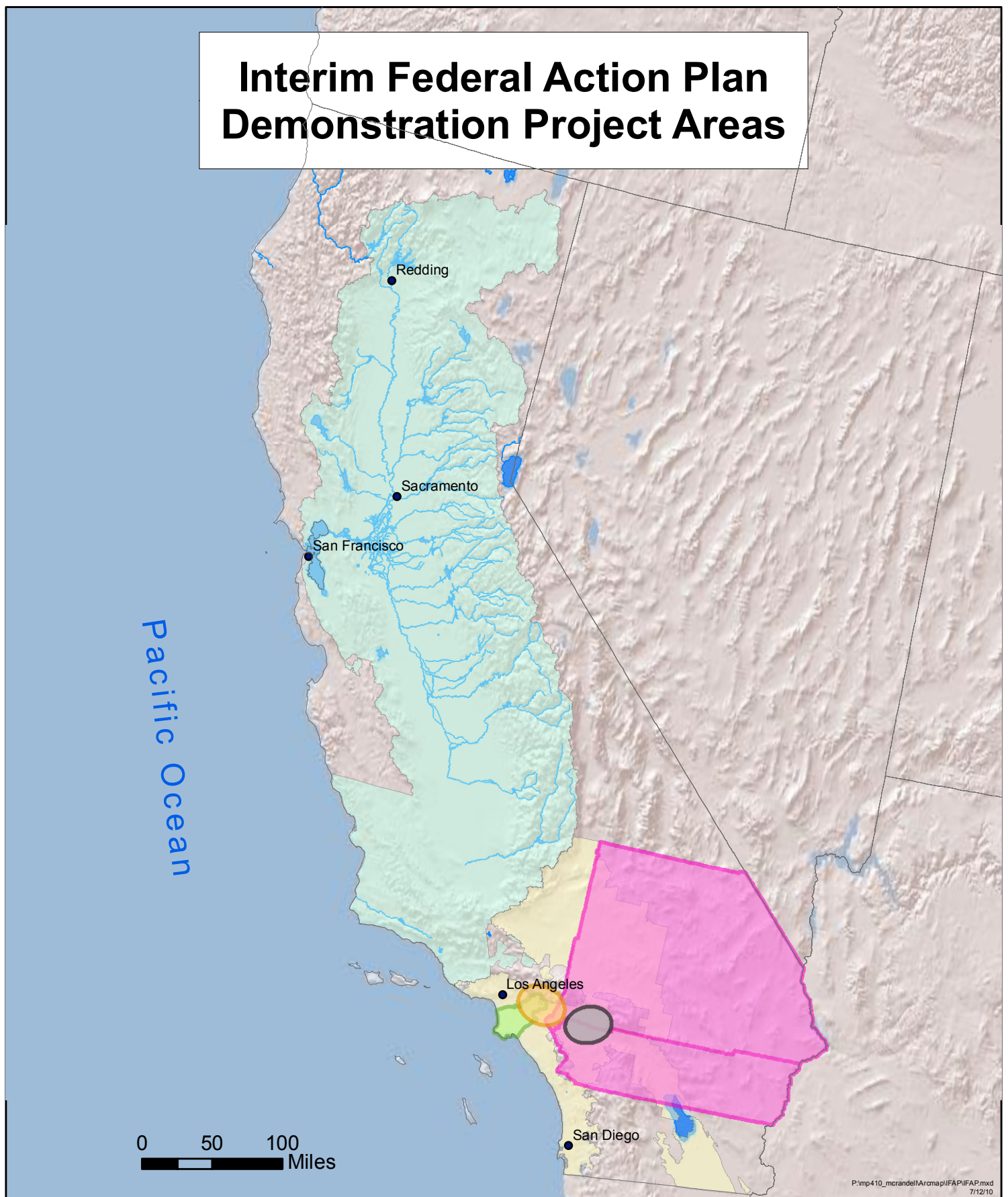
The technical team worked diligently to identify, develop, and package collaborative projects that coincided with agency missions, met the components of the IFAP, and fell within the agreed upon key criteria and dimensions. Below is a list of proposed demonstration projects that the technical team is recommending to satisfy the water conservation and recycling element of the IFAP, and this packet also contains fact sheets for each project.

1. **California Financing Coordinating Committee**-Federal agencies become involved in the California Financing Coordinating Committee (CFCC) to facilitate and expedite the completion of infrastructure projects by helping interested parties identify and combine the resources of various state and federal funding sources.
2. **California Water and Energy Management Pilot Project**- EPA is currently designing an energy and water audit program to help entities save energy and water. The goal of the program is to reduce energy production (and therefore associated greenhouse gas emissions) required to power participating water agencies by 20% through energy and water efficiency improvements, water recycling, and/or renewable energy production. The embedded energy of water conserved will be a major criteria for selecting agencies to participate in the project. The IFAP will help EPA expand the number of entities participating in the project. The IFAP technical team will be the nucleus of a workgroup of all state and federal agencies with potentially relevant funding who are willing to coordinate the outreach, application, review, and award aspects of their respective funding programs.

3. **Funding Opportunity Announcement for Agricultural Water Conservation/Recycling Demonstration Projects-** Reclamation will post a Funding Opportunity Announcement to invite States, Indian Tribes, irrigation districts, water districts and other organizations with water or power delivery authority to leverage their money and resources by cost sharing with federal agencies to build demonstration or pilot projects that improve water supply reliability through water conservation or improved water management. Projects may include the use of advanced water treatment technologies or recycling to increase water supply.
4. **Water Independence Now (WIN) and Groundwater Reliability Improvement Project (GRIP)-** This project is located in San Gabriel, Central Basin, and South Bay (Whittier Narrows Dam). WIN is a network of existing, improved, and new facilities, coupled with education efforts, that is intended to increase regional self-sufficiency and improve water supply reliability for southern Los Angeles County. WIN improves water management largely through water recycling and managing the Central and West Coast groundwater basins. The IFAP will serve as the catalyst for multiple agencies to coordinate water conservation and recycling efforts in this watershed to achieve optimal results.
5. **Regional Co-Op Feeder System for Water Supply Sustainability-** This is a project located in San Bernardino and Riverside counties that focuses on (1) water supply/conservation through storm water capture using Seven Oaks Dam and Prado dams, (2) water recycling through treatment of lesser quality groundwater, (3) reduce reliance on State Water Project and Colorado River water by improving existing water quality for human consumption and ecological function (Santa Ana River), and (4) generating new water through improved management of local water. The IFAP will serve as the catalyst for multiple agencies to coordinate water conservation and recycling efforts in this watershed to achieve optimal results.
6. **Foothill Communities Water Supply Reliability Program (WSRP)-** This project is located in Southern California, San Gabriel Valley, CA. WSRP aims to improve groundwater quality, optimize storage and distribution of water during recurrent drought and develop back up supplies to mitigate for major seismic or wildfire events and reallocate water for ecosystem restoration. This will be accomplished through modernizing water supply systems by storing water underground for future use, making local systems more reliable by diversifying water sources, improving water quality by adding higher quality water to each foothill basin, and enhancing the efficiency and reliability of regional water delivery. The IFAP will serve as the catalyst for multiple agencies to coordinate water conservation and recycling efforts in this watershed to achieve optimal results.
7. **Yucaipa Valley Water District, Regional Water Supply Renewal Project: Regional Brineline** – This project is located in San Bernardino County, and is within the jurisdiction of the Santa Ana Regional Water Quality Control Board (Santa Ana Regional Water Board). The pipeline would be constructed within the Cities of Yucaipa, Redlands, Loma Linda and San Bernardino, within the Counties of San Bernardino and Riverside. The Project would extend the existing Santa Ana Regional Interceptor (SARI) pipeline from the City of San Bernardino to the District's Henry N. Wochholz Regional Water Recycling Facility (WRWRF) located in the City of Yucaipa. The Pipeline will allow the District to dispose of brine generated from the WRWRF Reverse Osmosis Process.

Construction of the Project will allow the District to come into compliance with Santa Ana Regional Water Board order No. R8-20040001. The order requires the District to meet Total Dissolved Solids (TDS) and Nitrate objectives in the Yucaipa and San Timoteo Basins. One of the requirements of the order is the construction of reverse osmosis and brine disposal facilities.

Interim Federal Action Plan Demonstration Project Areas



- Regional Supply Renewal Project
- Foothills Water Supply Reliability Program
- San Bernadino/Riverside Counties Proposal
- WIN and GRIP

Area of Focus for Water Use Efficiency Demo Projects

- North of Tehachapi Mountains
- South of Tehachapi Mountains

RECLAMATION
Managing Water in the West



Interim Federal Action Plan for California Bay-Delta

Fact Sheet

Demonstration Project #1

Project Name:

California Financing Coordinating Committee

Implementing Agencies and Partners:

California Department of Public Health, California Energy Commission, California Infrastructure and Economic Development Bank (I-Bank), Department of Housing and Community Development, Department of Water Resources, State Water Resources Control Board, US Department of Agriculture - Rural Development, Bureau of Reclamation, Army Corp of Engineers, and United States Environmental Protection Agency (USEPA).

Location:

State of California

Project Scope:

Federal agencies become involved in the California Financing Coordinating Committee (CFCC) to facilitate and expedite the completion of infrastructure projects by helping interested parties identify and combine the resources of various state and federal funding sources. As CFCC members, Interim Federal Action Plan participating agencies will participate in CFCC meetings to share project information to identify funding priorities. In addition, agencies will participate in funding fairs for the public to provide information on current funding opportunities for different types of water projects. Participating in the CFCC will facilitate planning and coordination with the California Department of Public Health, California Energy Commission, California Infrastructure and Economic Development Bank, Department of Housing and Community Development, Department of Water Resources, State Water Resources Control Board, US Department of Agriculture, Bureau of Reclamation, Army Corp of Engineers, and USEPA.

Purposes/Goals:

- The CFCC will serve as a financial assistance clearinghouse
- Interagency coordination for funding priorities and funding assistance
- Public service

Potential Benefits:

Streamlined financial assistance from state and federal agencies

Project Elements and Schedule:

Each agency will independently join. Membership should become active before 2011.

Funding Source and Authorities:

No funding or authority needed. Agencies will coordinate with other CFCC members to provide staff time and resources to assist CFCC implementation.

Interim Federal Action Plan for California Bay-Delta

Fact Sheet

Demonstration Project #2

Project Name:

California Water and Energy Project (CalWEP)

Implementing and Collaborating Agencies:

EPA, Reclamation, NRCS, USACE, SWRCB, DWR, CA Public Utilities Commission, and other federal and state agencies not in IFAP workgroup.

Location:

Water agencies (water utilities, wastewater utilities, water wholesalers, irrigation districts, etc.) and agricultural producers in Los Angeles, San Diego, and San Joaquin Valley communities that use State Water Project or Central Valley Project water. As southern California and the San Joaquin Valley water has the highest embedded energy in the state, this project will provide a framework for focusing state and federal resources towards water infrastructure improvements that will most effectively reduce demand from the Delta while helping to mitigate and adapt to the projected impacts of global warming.

Project Scope/Purpose:

Saving water saves energy and saving energy saves water. Water agencies and agricultural producers have the potential to increase their energy and water efficiency. They also have the potential to become large-scale producers of renewable energy and to become producers and/or users of recycled water. Many state and federal agencies, and energy utilities, have programs that can help fund such projects. Creative and effective federal, state, and power utility coordination can increase the amount of successful energy and water efficiency, and renewable energy, projects in the water sector.

Goals:

- (1) Reduce energy production (and therefore associated greenhouse gas emissions) required to power participating water agencies and agricultural producers (Participants) by **20%** through energy and water efficiency improvements and/or renewable energy production. The embedded energy of water conserved will be included in project benefits where appropriate and feasible. (Projects will fall under one of the following categories: water efficiency, water recycling, energy efficiency, or renewable energy development);
- (2) Demonstrate and quantify the ability of water agencies and agricultural producers to help California meet AB32 requirements and reduce demand from the Delta;
- (3) Develop a model process to facilitate energy efficiency and renewable energy production at water agencies and agricultural producers;

(4) Develop and implement an effective method to coordinate and direct federal, state, energy utility, and possibly energy services company funding and technical resources to projects with the highest potential for water and energy efficiency improvements; and

(5) Save Participants money which they can redirect to retaining jobs and/or capital improvements that lead to increased public health protection and other water quality improvements.

Potential Benefits:

Water management accounts for approximately 20% of the electricity and 30% of the natural gas used in California. Energy costs at water and wastewater utilities typically account for approximately one-third of their operating budget. Nationally, overall operations and maintenance costs for water and wastewater utilities are steadily rising from approximately \$15 billion in the 1970s to \$55 billion today. Therefore, energy efficiency and renewable energy production are proven methods that reduce operating costs and greenhouse gas emissions, and free up capital to make improvements that benefit public health and the environment. Additionally, a lot of water is needed to produce energy, so reducing energy use is an excellent way to conserve water.

Project Elements and Schedule:

Step 1: Create a workgroup (Workgroup) of all agencies with potentially relevant funding who are willing to coordinate the outreach, application, review, and award aspects of their respective funding programs (there are currently over 20 state and federal programs with potentially relevant funding). The California Financing Coordinating Committee is an existing effort that can potentially be utilized to support this demonstration project.

Step 2: The Workgroup will identify and clarify their funding resources to complete energy/water audits and implement projects (based on audit recommendations) and will develop a process for coordinated outreach, application, review, and award that can be utilized by all participating agency programs. This step is where all the funding details will be worked out, including whether matching funds will be required from Participants.

Ideally, grant funding (or other mechanisms without need for repayment) will be available from Workgroup agencies to conduct energy and water audits at selected Participants. These audits will identify (i) potential energy and water efficiency, water recycling, and renewable energy development infrastructure projects and (ii) opportunities for operational/management improvements that will save water and energy (such Environmental Management System [EMS] implementation). Subsequently, the Workgroup will identify funding to carry out projects identified through the audits.

Step 3: Identify 3-5 Participants in southern CA and the San Joaquin Valley that are interested in conducting energy/water audits and are committed to carrying out water efficiency, water recycling, energy efficiency, or renewable energy development projects. Workgroup will develop selection criteria based on recipients' capacity and motivation to carry out audit recommendations. Integrated Regional Water Management Plans, previous participation in sustainability workshops, current or completed sustainability projects, existing EMS plans, and

other capacity demonstrations may be used to identify potential Participants. Participants will be solicited through a process determined by the Workgroup, and informed by stakeholder input to ensure success.

Step 4: When audits are completed, select highest potential (using criteria developed by Workgroup) infrastructure and management projects. Workgroup will administer funding to complete projects once they are selected.

Step 5: After projects are constructed - analyze the effectiveness of the CalWEP process, make improvements, and repeat Step 3.

Funding Source and Authorities:

Limited funding is available to conduct energy audits from USEPA. Various state and federal agencies offer funding for completing energy and/or water audits, energy/water efficiency and water recycling project design and construction, and renewable energy project development and implementation.

Interim Federal Action Plan for California Bay-Delta

Fact Sheet

Demonstration Project #3

Project Name:

WaterSMART: Bay-Delta Agricultural Water Conservation and Efficiency
Demonstration/Pilot Projects

Implementing Agencies and Partners:

NRCS and Reclamation (Co-leads), SWRCB

Collaborating Agencies:

DWR, EPA, USACE

Location:

The geographic scope encompasses all watersheds that contribute water to or receive water from the Bay-Delta system. The geographic scope is synonymous with the CALFED solution area.

Project Scope:

Reclamation and NRCS propose partnering to provide a complimentary Funding Opportunity Announcement for improving water supply reliability through water conservation or improved water management, improving energy efficiency, and addressing endangered species and other environmental concerns.

Reclamation has authority to provide financial assistance to those with water or power delivery authority. This includes those at the water/irrigation district level, whereas NRCS has the authority to provide on-farm assistance. Accordingly, NRCS funding is made available for on-farm water conservation practices that complement the goals of WaterSMART. Complementing NRCS Farm Bill programs include the Environmental Quality Incentive Program (EQIP) and Agricultural Water Enhancement Program (AWEP) which are the primary programs that address water quantity and water quality conservation practices.

Reclamation will invite States, Indian Tribes, irrigation districts, water districts and other organizations with water or power delivery authority to leverage their money and resources by cost sharing with federal agencies to build demonstration or pilot projects or to develop programs that improve water supply reliability and facilitate transfers for new uses. Projects may include the use of advanced water treatment technologies to increase water supply. Projects may also include urban water use components if there is a direct benefit to agricultural water supplies.

Applications will be scored against technical criteria that meet the objectives of the IFAP. Project categories include project benefits, water supply need, demonstrated results,

project costs, innovation, contributions to water supply reliability, and implementation plan.

NRCS will provide accelerated technical and financial assistance from USDA conservation programs to assist farmers and ranchers with their eligible on farm components of selected projects.

Entities applying under this Funding Opportunity Announcement may also apply for the SWRCB Clean Water State Revolving Fund to assist in the non-federal cost share requirement.

To the extent possible, collaborating and implementing agencies will coordinate and provide assistance to expedite the implementation of selected projects.

Purposes/Goals:

- Conserve water
- Enhance water use efficiency
- Improve water supply reliability
- Provide benefits to Bay-Delta and entities reliant on Bay-Delta water

Potential Benefits:

Water Conservation, improved water management, improved water supply reliability, habitat improvements including in-stream flows, facilitate the transfer of water to other uses to meet critical needs for water supplies as applicable under federal and state laws, decreased diversions, increased operational flexibility, water quality, and energy efficiency.

Project Elements and Schedule:

Release of Funding Opportunity Announcement on grants.gov (*October 2010*)

Project Selection (*January 2011*)

Implementation of selected projects (*March 2011-March 2013*)

Schedule may require adjustment depending upon date of the final FY 2011 appropriations.

Funding Source and Authorities:

Agency	Source	Authority
Reclamation	*WaterSMART	Section 9504 of the Secure Water Act, Subtitle F of Title IX of the Omnibus Public Land Management Act of 2009, P.L. 111-11(42 USC 10364).
NRCS	EQIP, Funds are allocated by NRCS at	Food, Conservation, and Energy Act of 2008,

	the state level to county level NRCS offices	Public Law 110-246
SWRCB	Clean Water State Revolving Fund	Entity and project must be eligible under SWRCB criteria

*A 50% non-Federal cost-share is required.

The following is DRAFT criteria categories for grading and selecting water conservation demonstration projects under the IFAP. Categories will be expanded and assigned point values based on input from collaborating agencies and executives.

1. **Project Benefits:** Points will be awarded based on measurable benefits that are quantified or qualitative targets. Benefits include, but are not limited to, estimated acre-feet of water conserved or better managed, energy efficiency and renewable energy improvements, habitat or endangered species benefits, water supply reliability, and water quality improvements. Net benefits at the basin or watershed level will be given added consideration, for example, reduction of irrecoverable water losses.
2. **Water Supply Need:** Points will be awarded based on the degree to which water supply related issues are identified and proposed activities address them as appropriate.
3. **Demonstrated Results:** Points will be awarded based on a project's ability to demonstrate results, the quality of the project design, the establishment of measurable objectives based on the project's overall goals, monitoring plan, and measurement of outcomes.
4. **Project Costs:** Points will be awarded based on reasonableness of cost/benefit ratios and the extent to which costs are reasonable for the work proposed.
5. **Innovation:** Points will be awarded based on innovative techniques and approaches to produce benefits that address water supply, applicant's plan to assist others in adopting and implementing the methods and techniques used by the project, and the applicant's to continue, expand, and build upon the project when Federal assistance ends.
6. **Other Contributions to Water Supply Reliability and Basin-wide Management:** Points will be awarded based on a project's ability to contribute to a more sustainable water supply in ways not covered by other criteria (e.g., addressing specific local concerns, water supply shortages due to climate variability, significant population growth, or drought), accelerate the implementation of an integrated regional water management plan, or partner with a Resource Conservation Districts or mobile lab for on-farm efficiency.

7. **Interim Federal Action Plan Cooperation:** Points will be awarded based on the extent to which a project complements existing or newly awarded NRCS Agricultural Water Enhancement Programs.
8. **Implementation Plan:** Points will be awarded based on the quality of the plan of implementation of the proposed project, including identification of all project participants and their roles and willingness to participate, the institutional arrangements for project implementation, timing and ability to obtain regulatory permits, availability and timing of funding shares, and overall readiness to proceed within the required timeframe.

Interim Federal Action Plan for California Bay-Delta

Fact Sheet

Demonstration Project #4

Project Name

Water Independence Now (WIN) Program

Implementing Agencies and Partners:

Water Replenishment District (WRD) of Southern California (Primary implementing agency)

Partnering agencies: WateReuse Association, County Sanitation Districts of Los Angeles County, Los Angeles County Flood Control District / Los Angeles County Department of Public Works, Long Beach Water Department, Upper San Gabriel Valley Municipal Water District, San Gabriel Valley Municipal Water District, Orange County Water District.

Collaborating Agencies:

U.S. Army Corps of Engineers, U.S. Bureau of Reclamation, State Water Resources Control Board, California Department of Water Resources, California Department of Public Health, Los Angeles Regional Water Quality Control Board

Location:

Southern Los Angeles County

Project Scope:

WRD's Water Independence Now (WIN) Program is a suite of projects that will develop local resources to eliminate up to 26,000 acre-feet per year (AFY) of imported water demand and allow southern Los Angeles County independence from its historical reliance on Northern California and the Colorado River for its supply of replenishment water to recharge the Central and West Coast groundwater basins within WRD's service area, and the Main San Gabriel, and Orange County groundwater basins within partnering agency service areas. WIN includes projects to increase the use of stormwater and recycled wastewater for indirect potable use by means of groundwater recharge and seawater intrusion prevention. These multi-benefit projects will beneficially use water currently discharged to the ocean, develop local water infrastructure to sustain potable supply, and reliably protect water quality in the area basins.

Specifically, WIN includes the following projects:

- The heart of the WIN Program is a multi-agency, multi-regional effort to investigate new sources of water to replace up to 21,000 AFY of imported water currently spread at the Montebello Forebay. One possible option of the **Groundwater Reliability Improvement Program (GRIP)** will supply highly treated recycled water for groundwater recharge in the Central, West Coast, and Main San Gabriel basins of Los Angeles County and increase sustainability of local water supply by treating and recharging 18,000 AFY of recycled water.
- Expansion of the **Leo J. Vander Lans Advanced Water Treatment Facility** will supply an additional 3,000-5,000 AFY of recycled wastewater for injection at the Alamitos Seawater Barrier, fully replacing like amount of imported water demand at this seawater barrier. Recharge of advanced treated recycled water at the barrier (seawater intrusion best management practice) protect against saltwater contamination and improve groundwater quality.
- The **Whittier Narrows Conservation Pool** allows for the seasonal recharge of stormwater into the Central Basin using conservation capacity behind the Whittier Narrows Dam as temporary detention. An operational change to increase the dam's conservation capacity by an additional

1,100 AFY will offset imported water use for groundwater recharge by a like amount. Additionally, the increased duration of seasonal inundation will support higher-quality habitat and open space.

- The **Spreading Grounds Interconnection Pipeline** project connects two major percolation ponds with a dedicated pipeline, increasing operational efficiency and enabling the conservation of an additional 1,300 AFY of stormwater, and the recharge of an additional 5,700 AFY of recycled water. The conservation of 7,000 acre-feet of locally available water will reduce imported water demands at the spreading grounds by a like amount.

Purpose/Goal:

Implementation of the WIN Program will allow WRD to fully replace imported water demand from the environmentally sensitive Bay Delta and the Colorado River by developing local replenishment water supply for the Central and West Coast groundwater basins. Under WIN, the Central and West Coast basins can be self-sustaining, self sufficient groundwater basins.

Potential Benefits:

- Eliminate dependence on imported water from the environmentally-sensitive Bay Delta and Colorado River for groundwater basin replenishment
- Increase stormwater recharge without construction of dams and reservoirs
- Reclaim wastewater for groundwater recharge
- Produce self-sustaining groundwater basins in Los Angeles area.
- Increase reliability of groundwater resources to protect against interruptions of water supply during levee failure, climate change, earthquakes, droughts, and/or other natural disasters.
- Install water recycling infrastructure to prepare for Los Angeles region's long-term water supply and water quality needs
- Eliminate excess energy cost of conveying a like amount of imported water

Project Elements and Schedule

See "Authorities & Funding Sources" table for identification project elements, schedule and status

- Groundwater Reliability Improvement Program (GRIP)
- Leo J. Vander Lans Advanced Water Treatment Facility
- Whittier Narrows Conservation Pool
- Spreading Grounds Interconnection Pipeline

Funding Source and Authorities:

See "Authorities and Funding Sources" table for information organized by project element.

WRD is partnering and seeking to share costs with local, state, and federal agencies.

Current Funding


- USACE is assisting WRD and Los Angeles County Flood Control District on funding strategies on the Whittier Narrows Conservation Pool project.
- Reclamation awarded Title XVI ARRA funding to the Vander Lans Expansion project.
- WRD will receive planning grants from the State Water Resources Control Board for GRIP and Vander Lans Expansion. These projects are on the 2010/2011 Clean Water SRF priority list.

Other Potential Funding

- Two of the four WIN projects (Whittier Narrows Conservation Pool and Leo J. Vander Lans Expansion) are currently in the Greater Los Angeles County Integrated Regional Water Management (IRWM) top ten projects to be recommended to Department of Water Resources to receive funding in the first round of Proposition 84.

Water Independence Now (WIN) Program
Authorities and Funding Sources

Potential Funding Sources by Project Element							
Project Title	Description	Preliminary Engineering	Environmental (CEQA/NEPA)	Regulatory/ Permits	Design	Construction	Schedule
Groundwater Reliability Improvement Program (GRIP)	Multi-agency, multi-regional effort to investigate new sources of water to replace up to 21,000 afy of imported water currently spread at the Montebello Forebay. One possible option of the Groundwater Reliability Improvement Program (GRIP) will supply highly treated recycled water for groundwater recharge in the Central, West Coast, and Main San Gabriel basins of Los Angeles County and increase sustainability of local water supply by treating and recharging 18,000 acre-feet (nearly 6 billion gallons) of recycled water per year. Provides a reliable groundwater replenishment supply to "drought proof" this region as it faces the impacts of climate change.	F - federal S - state <u>SWRCB</u> - Water Recycling Funding Program Planning Grant. L - local <u>WRD</u> / <u>USGVMWD</u> / <u>LACSD</u>	F S <u>SWRCB</u> - Water Recycling Funding Program Planning Grant. L <u>WRD</u> / <u>USGVMWD</u> / <u>LACSD</u>	F S <u>SWRCB</u> - Water Recycling Funding Program Planning Grant. L <u>WRD</u> / <u>USGVMWD</u> / <u>LACSD</u>	F S L <u>WRD</u> / <u>USGVMWD</u> / <u>LACSD</u>	F S <u>DWR</u> Prop 84 IRWM. <u>SWRCB</u> CWSRF. L <u>MWD</u> Local Resources Program <u>WRD</u>	Prelim Engrg: Q3-2009 to Q2-2010 Env docs: Q2-2010 to Q2-2012 Permitting: Q2-2012 to Q2-2013 Facility Design: Q1-2013 to Q3-2013 Construct: Q3-2013 to Q3-2015
Leo J. Vander Lans Advanced Water Treatment Plant Expansion	Expansion of this water recycling facility will supply an additional 3,000 5,000 acre-feet per year to fully replace imported water demand at the Alamitos Seawater Intrusion Barrier. The water injected into the barrier wells is later extracted by groundwater production wells for potable use. Project will improve the barrier's reliability, safeguard groundwater quality in the Central Groundwater Basin and the Orange County Groundwater Basin, and promote the sustainability and drought tolerance of the L.A. region. The existing facility was constructed considering future expansion. Infrastructure to accommodate expansion already exists.	F <u>USBR</u> Title XVI (2009 ARRA) S <u>SWRCB</u> Water Recycling Funding Program Planning Grant. L <u>WRD</u> / <u>WateReuse Association</u> / <u>LACSD</u> / <u>USGVMWD</u> / <u>LBWD</u>	F <u>USBR</u> Title XVI (2009 ARRA) S <u>SWRCB</u> Water Recycling Funding Program Planning Grant. L <u>WRD</u>	F <u>USBR</u> Title XVI (2009 ARRA) S <u>SWRCB</u> Water Recycling Funding Program Planning Grant. L <u>WRD</u> / <u>OCWD</u> / <u>LACFCD</u>	F <u>USBR</u> Title XVI (ARRA) S L <u>WRD</u>	F <u>USBR</u> Title XVI S <u>DWR</u> Prop 84 IRWM. <u>SWRCB</u> CWSRF. L <u>MWD</u> Local Resources Program <u>WRD</u>	Prelim Design: Q2-2010 to Q3-2010 Env docs: Q1-2010 to Q3-2010 Regulatory/Permits: Q2-2010 to Q2-2011 Facility Design: Q1-2011 to Q3-2011 Construct: Q4-2011 to Q3-2013
Whittier Narrows Conservation Pool Project	The Whittier Narrows Conservation Pool project involves increasing the maximum conservation pool elevation behind the Whittier Narrows Dam from 201.6' to 205' to recharge an additional 1,100 acre-feet per year of locally available stormwater into the Central Groundwater Basin. This operational change will allow the temporary detention and recharge of additional stormwater. USACE requires an updated Feasibility Study and environmental documents for the 205' level. Water captured in the conservation pool will be released at a rate equal to the infiltration rate of the spreading grounds.	F <u>USACE</u> S <u>DWR</u> (Prop 84 IRWM) L <u>WRD</u> / <u>LACFCD</u>	F <u>USACE</u> S <u>DWR</u> (Prop 84 IRWM) L <u>WRD</u> / <u>LACFCD</u>	N/A	N/A	F <u>USACE</u> S <u>DWR</u> (Prop 84 IRWM) L <u>WRD</u> / <u>LACFCD</u>	Deviation Request: began Q2-2009 Env docs: Q2 & Q3-2010 (in progress) Feasibility Study Update: FY 2011 Associated Env docs: Q4-2010 to Q3-2011 Operate by Q4-2011
Rio Hondo and San Gabriel Spreading Grounds Interconnection Pipeline	Construct pumping station and dedicated transmission pipeline to increase operational flexibility between the Rio Hondo and San Gabriel River Coastal Spreading Grounds. These facilities will increase operational flexibility and efficiency, enabling the capture of an additional 1,300 acre-feet per year of stormwater, and the recharge of an additional 5,700 acre-feet per year of recycled water. The conservation of 7,000 acre-feet of locally available water will reduce imported water demands at the spreading grounds by a like amount.	F S L <u>LACFCD</u> / <u>WRD</u>	F S L <u>LACFCD</u> / <u>WRD</u>	F S L <u>LACFCD</u> / <u>WRD</u>	F S L <u>LACFCD</u> / <u>WRD</u>	F S L <u>LACFCD</u> / <u>WRD</u>	Construction in progress - Q3-2010 completion

 Completed or in progress

Interim Federal Action Plan for California Bay-Delta

Fact Sheet

Demonstration Project #5

Project Name

Riverside - San Bernardino Regional Co-Op Feeder System for Water Supply Sustainability

Implementing Agencies and Partners:

Western Municipal Water District (WMWD) (Primary implementing Agency)

Partnering agencies: San Bernardino Valley Municipal Water District, Inland Empire Utilities Agency, City of Riverside, City of Corona, City of Ontario, Jurupa Community Services District, Elsinore Valley Municipal Water District, Home Gardens County Water District, Lee Lake Water District, riverside Highland Water Company, Rubidoux Community Services District, Western/San Bernardino Watermaster, Riverside-Corona Resource Conservation District, Chino Basin Watermaster, and Signatories to the historic Seven Oaks Accord: Orange County Flood Control District, San Bernardino County Flood Control District, Riverside County Flood Control and Water Conservation District.

Collaborating Agencies:

US Bureau of Reclamation, US Army Corps of Engineers, US Environmental Protection Agency, Department of Water Resources, State Water Resources Control Board, Santa Ana Regional Water Quality Control Board Region 8, Santa Ana Watershed Project Authority,

Location:

Western Riverside County and western San Bernardino County

Project Scope:

The Riverside - San Bernardino Regional Co-Op Feeder System is comprised of several projects linking the Santa Ana River Watershed. The System will create greater independence and sustainability of hydrologic regions that are unstable or unsustainable due to 1) dependence upon water imported from federal sources impacted by ESA or other federal regulatory restrictions, 2) local groundwater sources impacted by federal decisions resulting in impaired water quality; 3) lack of inter-governmental cooperation needed to create diversified local water sources and integrated treatment and delivery systems.

The System will create a regionally sustainable water supply resulting in greater independence from imported Bay-Delta water, by developing and linking new regional water supplies from stormwater capture, conjunctive use, desalination and nonpotable re-use sources:

- (1) Water Supply/ Water Conservation
 - Stormwater capture using Seven Oaks Dam and Prado dams
- (2) Water Quality / Groundwater Cleanup
 - Demonstration of national benefits from cutting edge water quality technologies (BioDenitrification at Arlington Desalter , Brine Concentration at Chino Desalter)
 - Expansion of new local water supplies through improved water quality
 - Recovery of poor quality aquifers
- 3) Nonpotable re-use (indirect nonpotable re-use / groundwater recharge)
- 4) Water recovery through treatment of lesser quality groundwater

- 5) Improved water quality at Prado Dam flowing downstream to 5 million consumers in Orange County
- 6) New water for direct potable use

The System is comprised of the following components:

Seven Oaks Dam - Water Conservation - Originally conceived as a flood control project, Seven Oaks Dam can also contribute significantly to the regional water supply by recharging local aquifers according to a water conservation plan to be developed as part of this project. In July, 2010, the largest water right recently granted in California was given to Western Municipal Water District and San Bernardino Valley Municipal Water District. The project offers new water as a vital local supplement in lieu of costly agricultural transfers that can result in greater energy consumption and green house gas emissions.

Arlington Desalter - Bio-denitrification – This project will demonstrate use of BioDenitrification to safely and effectively eliminate three of the nation’s most common groundwater contaminants (nitrate, perchlorate, VOCs) in a single, sustainable, and non-proprietary process. This will be the nation’s first full-scale, biologically active denitrification facility producing drinking water.

Chino Desalter Expansion and Brine Concentration – Brine concentration technology is identified by the US Bureau of Reclamation (Lower Colorado Region) as a top priority solution for salinity control in inland areas of the nation. The technology at Chino is among the nation’s first large-scale applications of brine concentration. This will facilitate pumping and treatment of additional groundwater to provide water during droughts and to significantly minimize the amount of degraded groundwater traveling into the Santa Ana River.

Riverside-Corona Feeder - This project facilitates sustainable regional hydrology because it provides pivotal conjunctive use and conveyance. The RC Feeder is the conduit for moving water throughout the region from multiple sources to multiple users. The RC Feeder is also a conjunctive use project provides pumping and conveyance linking to all of the water supplies mentioned above. This creates a robust regional water system fed by multiple local sources independent of the imported water from the Bay-Delta. This will increase firm water supplies, reduce water costs, and improve water quality.

Purpose/Goal:

The ultimate goal of this system is the sustainability of regional water supplies. Increased independence from imported water supply can be achieved by creating an integrated regional water supply system that captures stormwater, recharges recycled water, and cleans up saline and contaminated groundwater with eco-friendly, innovative technology.

WMWD firmly believes that regions dependent upon imported water can relieve pressure on imported supplies by investing co-operatively at federal, state and regional levels in regional water supply systems that integrate multiple local water sources into a regional treatment and distribution system. To the extent each hydrologic region in California can adapt its unique water supply portfolio to achieve greater independence from imported supply, the entire state hydrology will be stabilized. Demonstrating the success of this model is a necessary first step to federal implementation for hotspots across the arid west, the oversubscribed aquifers of the Midwest, and the drought-prone areas of the eastern United States.

Reduced reliance on State Water Project supplies will result from improving existing water quality for human consumption and ecological function (Santa Ana River), and by generating new water through improved management of local water.

Potential Benefits:

- OVERALL: Implementing the Regional Co-Op Feeder System proposed by Western Municipal Water District will provide robust regional water supply and reliable regional distribution (via the Riverside-Corona Feeder) of varied local water resources (Seven Oaks, Arlington and Chino Desalters). These waters will also be treated and re-used for landscape irrigation and indirect nonpotable recharge (Arlington Basin Water Quality Improvement).
- New Water Supply (acre feet annually): 252,300af
- New jobs created: 2,436 (direct) 4,060 (indirect)
- Energy saved 35,267,729 (KW annually)
- Greenhouse Gasses reduced 1,643 (tons annually)

Project Elements and Schedule

See attached Table

- Seven Oaks Dam – Water conservation
- Arlington Desalter - Bio-denitrification
- Chino Desalter – Brine Concentration
- Riverside-Corona Feeder

Funding Source and Authorities

See attached Table

- US Bureau of Reclamation
- US Army Corps of Engineers
- US Environmental Protection Agency
- State Water Resources Control Board
- Department of Water Resources

Riverside_San Bernardino Projects

Project/Draft Rank	Partner	Description	Funding Source	Federal Agency	State Agency	Jobs Created Direct	Jobs Created Indirect	Design Status	CEQA Status	New Water Produced, Af	SWP energy, kwh/AF	Energy Savings versus SWP	Target Budget Cycle	Project Energy, kwh/AF	Energy Savings versus SWP, kwh	CO ² savings versus SWP, Ton
Conjunctive Use			Bureau													
Riverside/Corona Feeder (1)	SBVMWD	28-mile pipeline, up to 20 wells, potential groundwater treatment		Bureau of Reclamation	Funding authorization request: 1million/26 million	1200	2000	Pipeline preliminary design completed; conceptual design of wells completed	Program EIR adopted; Subsequent EIR being prepared for pipeline alignment	40,000	3,400	92,000 kwh	2010-11		0	
Desalination																
Arlington Desalter Expansion Phase I		Biodenitrification Treatment	Bureau of Reclamation		SWRCB Funding authorization request: \$4.4-10 million	54	90		Completed	800	3,400	1,840,000 kw	2010-11	43	3,311,161	154
Arlington Desalter Expansion Phase II (1)		Brine concentration facilities, 3 wells raw water pipeline		Bureau of Reclamation		150	250	Conceptual design completed	Completion 6-12 months	900	3,400	2,070,000 kwh	2011-12	870	2,796,568	130
Chino Basin Desalter Expansion (1)	IEUA Chino JCSD Ontario	10 mgd treatment, 6 wells, raw water pipelines (Disadvantaged Community)	HR 146	Bureau of Reclamation	SWRCB Department of Public Health	780	1300	Conceptual design completed	Chino II Desalter Expansion CEQA completed	10,600	\$3,400	24,380,000 kwh	2010-11	649	29,160,000	1,359
Stormwater Capture			WRDA													
Seven Oaks Dam (1)	SBVMWD	Spreading basins and pipelines for groundwater basin recharge		Corps of Engineers		252	420	Conceptual design completed	Completed	200,000	\$3,400	460,000,000 kwh	2012-13			
System Reliability			ARRA													
Recycled (Title XVI)																
March Pipeline (2)		7,000 feet of 30" Non Potable Pipe				7	12	Final design completed	Completed initial study		3,400		2011-12			
Water Use and Energy Efficiency																
RivCO Flood Zone 2 (2)	RPCWCD MWDC	Landscape Eval, HET install, controllers, runoff reduction				26	44	Existing programs with turnkey expandability	CEQA not applicable	18,000	3,400	41,400,000 kwh	2010-11			
System Reliability																
Avocado Way Pipeline Replacement (3)		Construct 1,200 feet of 8-in water pipeline, appurtenances, connections to existing pipelines and services				1	1	Final design completed	Completed		3,400		2012-13			
Decay Street Pipeline Replacement (3)		Replaces 2,800 feet of CI p/l with 12-in PVC appurtenances, connections to existing pipelines and new services				3	6	Final design completed	Completed		3,400		2010-11			
Emelita @ Multiview PRV (3)		Pressure Reduction Station-2116PZ to 1783 PZ				2	3	Final design completed	Completed		3,400		2010-11			
Gilley Street Pipeline Replacement (3)		Replace 1,180 feet of CI p/l with 8-in PVC appurtenances, connections to existing pipelines, and new services				2	3	Final design completed	Completed		3,400		2010-11			
Juniper Road (3)		4900 Feet of 12" Domestic Water Pipe in 2320 PZ				4	6	Final design completed	Completed		3,400		2011-12			
Via Barranca PRV (3)		Pressure Reduction Station 2320 PZ to 2116 PZ				1	1	Final design completed	Completed		3,400					
Wyer Road 1783/1837 Intertie-Tie Pipeline (3)		Construct 1783/1837 PZ intertie				5	8	Final design completed	Completed		3,400		2010-11			

SWP	kwh/AF	Emission Factor, lbs/kwh
Energy	3400	0.72412
Southern California Edison		0.63089

Riverside-Orona Feeder Energy

Number of wells	Depth 2GW	Q , GPM	Efficiency	kwh	AF	kwh/AF	Energy savings versus SWP/yr, kwh
20	150		1240	0.75		40000	3400
							0

Arlington Desalter Expansion, Phase I (Source: Appendic B Page 1, Arlington Desalter Evaluation Report, February 2007, Carollo)								CO2 Savings, Ton/yr
	Existing, GPM Phase I, GPM		AF/yr	Existing, kwh/yr	Phase I, kwh/yr	kwh/AF	Energy savings versus SWP/yr, kwh	
Well#1	438	748	493	15,043	25,720	22	1,666,258	154
Well#2	438	748	493	15,043	25,720	22	1,666,258	
Total	876	1,496	986	30,086	51,440	43	3,311,161	

Arlington Desalter Expansion, Phase II (Source: Appendic B Page 7, Arlington Desalter Evaluation Report, February 2007, Carollo)							
	Concentrat softening+Nit rate Removal	Existing/bypass+Nitrate removal	Concentrat softening only	Concentrat softening only, kwh/yr	Volume of treated concentrate, AFY	kwh/AF	Energy savings versus SWP/yr, kwh
Cost, energy	\$918,223	\$798,084	\$120,139	961,112	1,105	870	2,796,568

Chino Desalter Expansion, Phase II (Source: Section 3, Options, Table 3.2, Chino Desalter Phase3 Alternatives Evaluation, March 2007, Carollo)							
	Chino pump station	Arlington pump station	Total	Concentrat softening only, kwh/yr	Additional Chino II product water, AF	kwh/AF	Energy savings versus SWP/yr, kwh
Cost, energy	400,000	460,000	860,000	6,880,000	10,600	649	29,160,000

Interim Federal Action Plan for California Bay-Delta

Fact Sheet

Demonstration Project #6

Proposal Name:

Foothill Water Coalition (FWC) — Water Supply Reliability Program (WSRP)

Location: Southern California, San Gabriel Valley, CA

Background: The water resource challenge for Southern California must reflect local initiative and regional solutions. In these very difficult economic times, we cannot provide a secure future for the people we serve without a reliable water supply. The WSRP is a huge step forward in addressing this challenge. Our regional water supply is hostage to drought, court orders that re-allocate our supplies, natural disasters (fires, floods, mud slides, and earthquakes), increasing unreliability of imported water, and even terrorist attacks. The good news for us is that we have 500,000 acre feet of unused storage space in our underground aquifers, representing an almost two year supply for our region. The cooperating agencies of the Foothill Water Coalition, working through the WSRP, will fill this unused storage capacity which will go a long way to drought-proofing the Raymond; San Gabriel, Six Basins, and Chino Basin aquifers. In accomplishing this, we will also be addressing a number of other crucial issues such as reallocation of water supplies brought on by climate change, habitat restoration, and water quality protection.

Comprehensive Approach: The WSRP will contribute and move our region towards achieving the goals of increasing conjunctive use, transforming existing single-use facilities into "multi-use", developing a "diverse water portfolio", and meeting the climate change challenges. These projects represent innovative regional solutions towards meeting our water needs and provide the means both to fill our aquifers to their capacity and also move this water around the region when required. This makes us much more self-reliant and less depended on the State Water Project deliveries. These new and innovative projects will maximize the use of the local resources and minimize wasting any water to the ocean. By tapping into the diverse local resources within our region, these projects will have a much reduced energy footprint. Our region will be less reliant on the State Water Project and imported water deliveries which require a huge amount of electricity to move into our region.

Elements: The WSRP is a regional endeavor, in partnership with the USACE and under the local sponsorship of the Raymond Basin Management Board and in collaboration with the Foothill Water Coalition, The WSRP local/Federal partnership has already begun with \$256,000 in Fiscal Year (FY) 2008 funding and \$214,000 in FY 2009 funding re-programmed by the LA District of the Corps of Engineers in support of this project. The FY 2008 Federal funding has allowed the project to complete its Corps of Engineers Project Implementation Plan (PIP) in June of 2009 and the FY 2009 funding has allowed us to continue the study and takes us one step closer to design and construction.

Partnerships: As we move forward in seeking funds, preparing studies, design plans, environmental documents and obtaining the necessary permits, collaboration with among Federal/State/Local agencies will be a key success factor.

Federal/State/Local partnership helps to ensure a reliable, regionally based supply of high quality groundwater that takes advantage of the full capacity of the underground aquifers that underlie the Raymond and San Gabriel Basins. By making the region far less dependent on an imported surface water supply, these projects provides an innovative solution to the worsening California drought while also reducing the need to use our State power grids to pump imported water hundreds of miles into our service area. The project will help local communities to meet EPA Safe Drinking Water Act goals and the State of California's Department of Public Health's objectives for water quality as well as providing the region with water supply in the event of a major seismic event or brushfire. Our collaboration with our elected official along with agencies such as the USACE, Reclamation, NRCS, Department of Water Resources, State Water Resources Control Board, Los Angeles Regional Water Control Board, Los Angeles County Flood Control and Sanitation Districts, San Gabriel Valley Council of Governments, cities, municipal water districts and companies, businesses, and local residents are key components of the future of our region because it provides for a safe, high quality, and locally based water supply.

Eight potential projects have been identified in the PIP. Each of these projects can be separately advanced into design and construction as funding becomes available. Out of the eight projects, the Arroyo Seco/Eaton Wash Pipeline, Storm Water Capture Program, and Recycled Water Spreading Program are consistent with the IFAP's Water Conservation and Recycling element.

WSRP - Arroyo Seco / Eaton Wash Pipeline: Devil's Gate Dam and Reservoir Water Conservation Project

Implementing Agencies and Partners: Los Angeles County Flood Control District

Collaborating Agencies: City of Pasadena, Raymond Basin Management Board, Main San Gabriel Basin Watermaster

Location: Devil's Gate Dam is located on the Arroyo Seco Wash at Devil's Gate Gorge approximately three miles northwest of the City of Pasadena within the Raymond Basin. Eaton Wash Dam is located approximately four miles east of Devil's Gate Dam (see attached map 1).

Project Scope: Over 6,500 acre-feet (AF) of water pass through Devil's Gate Dam each year. Water passing the dam joins with the Los Angeles River and is lost to the ocean. Devil's Gate Reservoir has the potential to capture and store 1,400 AF of storm water per storm. The Los Angeles County Flood Control District suggests that stored water could be moved and pumped through a pipeline system to Eaton Wash Dam for recharging at Eaton Wash Spreading Grounds located in the Raymond Basin or Eaton Basin located in the Main San Gabriel Basin.

Purpose/Goal: The proposed project will primarily improve the health and long-term

sustainability of the basin, increase local groundwater supplies, and reduce the region's reliance on water imports. Currently all the water that passes through Devil's Gate Dam is wasted to the ocean. There are no groundwater recharge facilities along the Los Angeles River and its tributaries in the Raymond or Main San Gabriel Basins. Any water that could be conserved at the spreading grounds will be measured and considered an increase to local groundwater supplies. The linkage between the two dams is not only innovative but also smart in ways of maximizing the flexibilities of operating the existing facilities, increasing store capacity and groundwater recharge, and reducing storm water wasted to the ocean. This project will also help the San Gabriel Valley region to meet the challenges of extreme weather trends induced by climate change. More importantly the cost of this project is a lot less than the cost of building new dams and additional water conservation facilities yielding the same benefits. In addition, the energy footprint of this project is very small when compared to the amount of energy required to transport imported water from outside of the local region. This will help reduce the reliance on the State Water Project.

Potential Benefits: 2,300 to 4,200 AF of water could be conserved annually.

Project Elements and Schedule: The final concept report for this project is scheduled for completion by the end of 2010. The design phase will take place in 2011. Depending on funding, the construction phase can begin in late 2011.

Funding Source and Authorities: The Los Angeles County Flood Control District has added this project to the Great Los Angeles County Integrated Regional Water Management Plan and Project List. Once the Design Phase is complete in mid-2011, the Los Angeles County Flood Control District will seek various grant funding for the Construction Phase at that time, it will most likely include but not limited to Federal WSRP funding request, State funding from Propositions 1E and 84, and local partnerships.

WSRP - Storm Water Capture Program

Implementing Agency: Foothill Water Coalition

Collaborating Agencies: City of Pasadena, Upper San Gabriel Valley Municipal Water District, Foothill Municipal Water District, and Los Angeles County Flood Control District

Location: The five debris basins are located in the Foothill Mountains within the Raymond and Main San Gabriel Basins (see attached map 2).

Project Scope: There is a large number of existing debris basins in the watershed drainage areas north of the Raymond Basin and Main San Gabriel Basin that are used for flood control purposes only. At present, flow entering these basins is delayed long enough to settle out the sediment and debris or is retained if the downstream water conservation or drainage facilities cannot handle the flow. Beneficial use of this water for groundwater recharge is lost as it is discharged to the ocean during large storm events. Modifying these debris basins and structures to provide a dual purpose of flood control and water conservation, along with enhancing the downstream spreading grounds, will save this water

from being lost. A study would be conducted to determine the feasibility of the modifications. Initially the first five debris basins being considered for the project are Bailey, Rubio, Santa Anita, Sierra Madre Villa and Sawpit Debris Basins. They have the largest capacities of the 34 debris basins in the Raymond and Main San Gabriel Basins.

Purpose/Goal: The study would evaluate the opportunities for groundwater recharge at the debris basins. Currently the debris basins are used to contain the high sediment loads and provide protection from the mudflow and debris to the communities downstream. Use of the debris basins for water conservation purposes is something that is new and has not been considered in the past. The final outcome will primarily increase local groundwater supplies, decrease ocean discharges and reduce the region's reliance on the State Water Project.

Potential Benefits: 170 acre-feet of water could be conserved annually.

Project Elements and Schedule: Depending on funding, the study could be completed in 2011.

WSRP - Recycled Water Spreading Program: Energy Efficient Satellite Recycled Water Plants

Implementing Agencies and Partners: Upper San Gabriel Valley Municipal Water District, Foothill Municipal Water District, San Gabriel Valley Municipal Water District, Three Valleys Municipal Water District, and Los Angeles County Sanitation District

Collaborating Agencies: Cities of Pasadena, Arcadia, Azusa and Glendale, Raymond Basin Management Board, Main San Gabriel Basin Watermaster, and Los Angeles County Flood Control District.

Location: In the vicinity of Arroyo Seco Spreading Grounds, Eaton Wash Spreading Grounds, and local parks in the Cities of Azusa and Arcadia (see attached map 3).

Project Scope: The Foothill Municipal Water District with the FWC has recently begun to evaluate opportunities for recycled water supply in their service area utilizing Satellite Water Recycling Facilities at strategic foothill locations in the San Gabriel Valley. An advantage of satellite water recycling facilities is that they can be located near the demands, which are primarily landscape irrigation and groundwater recharge basins. Locating these facilities at higher elevations, near the points of use also reduces energy demands for pumping. More significant energy savings can be achieved with a local supply that reduces imported water use by offsetting the tremendous energy used by the State Water Project.

Purpose/Goal: The proposed project will primarily improve the long-term sustainability of the basin, increase local groundwater supplies, and reduce the region's reliance on imported water. Recycled water is a new and reliable source water that can add great value the over all strategy of having a diverse water portfolio. Any water that could

be conserved at the spreading grounds will be measured and considered an increase to local groundwater supplies. If direct use is applied, metering the water use to irrigate a park is one way to measure the recycled water use in-lieu of imported water.

Potential Benefits: Four to five satellite water recycling plants with a combined capacity of 4-5 MGD, which is approximately 4,500 to 9,000 AFY and an energy savings of 9,000 MWH annually.

Project Elements and Schedule: Depending on funding, the final concept report for this project is scheduled for completion by the 2011. The design phase will take place in 2012. Construction phase can begin in 2013.

Santa Fe Dam — Water Conservation Pool Feasibility Study

Location: Santa Fe Dam is located on the San Gabriel River downstream of Morris Dam in the City of Irwindale within the Main San Gabriel Basin. Morris Dam is located approximately 10 miles north of Santa Fe Dam (see attached map 4).

Project Scope: Santa Fe Dam provides vital flood control protection to the lower portions of the San Gabriel Valley along the San Gabriel River between the Santa Fe Dam and the Whittier Narrows Dam. The Whittier Narrows Dam as well as the San Gabriel and Rio Hondo Coastal Spreading Grounds are located downstream of Santa Fe Dam. Both of the spreading grounds are capable of storing a combined 4,175 AF of water. However, medium to large storms produce enough runoff and storm water to exceed the capacity of both spreading grounds and large quantities of the water could be wasted to the ocean by way of the Rio Hondo Channel. The recommended alternative is the creation of a water conservation pool to elevation 453' that will increase the amount of water conserved at Santa Fe Dam by 2,400 AF annually. Stored water would be released at a rate matching the downstream recharge capacity.

Purpose/Goal: Currently excess water that cannot be conserved at the spreading grounds, passes through Santa Fe Dam and is wasted to the ocean. Increasing the Dam's ability to direct flows to downstream recharge facilities can show measured water conservation as well as an increase to local groundwater supplies. The proposed project will primarily lessen the region's reliance on imported water by increasing local supply and improving the water supply reliability for the region as a whole. This project will also help the San Gabriel Valley region to meet the challenges of extreme weather trends induced by climate change. The measure of success will be the ability to capture and recharged water large storm normally would have been wasted to the ocean.

Potential Benefits: 2,400 to 6,000 AF of water could be conserved annually.

Project Elements and Schedule: The updated and final approval of the Los Angeles County Drainage Area: Santa Fe and Whittier Narrows Dam Water Conservation and Supply Feasibility Study is scheduled to begin in 2011. Upon approval of the report and its recommendations, the project will commence in early 2012.

Interim Federal Action Plan for California Bay-Delta

Fact Sheet

Demonstration Project #7

Project name: Regional Water Supply Renewal Project -Regional Brineline

Implementing Agencies and Partners:

Yucaipa Valley Water District, Santa Ana Watershed Protection Agency

Collaborating Agencies:

State Water Resources Control Board and Reclamation

Location:

The District is located in San Bernardino County, and is within the jurisdiction of the Santa Ana Regional Water Quality Control Board (Santa Ana Regional Water Board). The pipeline would be constructed within the Cities of Yucaipa, Redlands, Loma Linda and San Bernardino, within the Counties of San Bernardino and Riverside.

Project Scope:

The Project would extend the existing Santa Ana Regional Interceptor (SARI) pipeline from the City of San Bernardino to the District's Henry N. Wochholz Regional Water Recycling Facility (WRWRF) located in the City of Yucaipa. The Pipeline will allow the District to dispose of brine generated from the WRWRF Reverse Osmosis Process. Construction of the Project will allow the District to come into compliance with Santa Ana Regional Water Board order No. R8-2004-0001. The order requires the District to meet Total Dissolved Solids (TDS) and Nitrate objectives in the Yucaipa and San Timoteo Basins. One of the requirements of the order is the construction of reverse osmosis and brine disposal facilities.

The District has secured 2.0 MGD of capacity in the SARI pipeline. The SARI system is a regional industrial waste brine disposal system owned by the Santa Ana Watershed Project Authority (SAWPA). The SARI system conveys up to 30 MGD of non reclaimable wastewater from the upper Santa Ana River Basin to the Orange County Sanitation District for final treatment and ocean disposal.

The proposed Project consists of an approximately 15-mile pipeline for the disposal of brine produced at the WRWRF. The brine pipeline will commence at the WRWRF and terminate at the San Bernardino Wastewater Treatment Plant, and discharge to Reach IV-E of the SARI system. The proposed Project will be constructed in three construction phases.

Purpose/Goal:

The District is required by the Santa Ana Regional Board order No. R8-20040001 to meet total dissolved solids (TDS) and nitrate objectives in the Yucaipa and San Timoteo Basins. The order requires the District to meet TDS limits in the effluent from WRWRF, the non-potable water system and raw water used for groundwater recharge. The District proposes to install reverse

osmosis (RO) facilities at the WRWRF and construct the Project. The Project will allow the District to dispose of the brine produced at the proposed RO facility.

Potential Benefits:

The Project will allow the District to manage salt levels within the Yucaipa and San Timoteo Basin. The extension of the SARI line will provide the conveyance system to allow salts to be removed from the basins for ultimate disposal in the Pacific Ocean. By implementing the Project the District will be able to provide recycled water that complies with the regional groundwater basin objectives

Project Elements and Schedule:

PROJECT MILESTONES DATES -PHASE 1 & 2 CONSTRUCTION	SCHEDULED DATE
Advertise for Bids	November 2, 2009
Open Bids	January 12, 2010
Start Construction (Notice to Proceed)	May 13, 2010
Completion of Construction	April 30, 2011
Initiation of Operations	July 30, 2012

PROJECT MILESTONES DATES -PHASE 3 CONSTRUCTION	SCHEDULED DATE
Advertise for Bids	October 30, 2010
Open Bids	November 30, 2010
Start Construction (Notice to Proceed)	February 28, 2011
Completion of Construction	June 30, 2012
Initiation of Operations	July 30, 2012

Funding Sources and Authorities:

State Water Resources Control Board, Clean Water State Revolving Fund; Clean Water Act Section 212 and Integrated Regional Water Management Plan
United States Bureau of Reclamation, Title XVI – Program